

REMARKS

Claims 1, 4-7, 9-12, and 14-31 are pending in the application and have been rejected by the Office.

Claim 1

Claim 1 has been rejected by the Office under 35 U.S.C. § 103(a) as being unpatentable by Nulman in view of Stoddard.

Claim 1 recites entering semiconductor process parameters into a statistical process control system, receiving a request from an equipment interface for a data collection plan, configuring the equipment interface, using the statistical process control system, to collect the semiconductor process parameters, wherein configuring includes providing the data collection plan to the equipment interface.

It is respectfully disagreed that claim 1 is unpatentable by Nulman in view of Stoddard for at least the reasons recited below.

Neither Nulman nor Stoddard disclose or suggest, alone or in combination, receiving a request from an equipment interface for a data collection plan and configuring the equipment interface, using the SPC control system, to collect the semiconductor process parameters. Specifically, in its § 103 rejection, the Office agrees that Nulman does not disclose receiving a request from an equipment interface for a data collection plan or configuring as recited. Stoddard does not disclose receiving a request from an equipment interface for a data collection plan. Column 5, lines 40-55 of Stoddard, relied upon by the Office, does not state that a request is received from an equipment interface. Note, the only possible equipment interface of Stoddard is the ESW 100. Furthermore, FIG. 1A of Stoddard, and its supporting text, does not disclose an equipment interface, either as part of the processing tool 35 or as part of the equipment supervisor workstation 30, to provide a request that could be received as recited in claim 1, nor are there any equipment interfaces disclosed in Stoddard that are configured in the manner recited. In addition, neither the SPC system 220 of Nulman (see FIG. 5) nor Stoddard disclose an SPC system as recited in the method of claim 1. Specifically, Nulman does not

disclose configuring the equipment interface using the statistical process control system 220, as recited in claim 1.

Because neither Nulman nor Stoddard disclose or suggest, alone or in combination, a method involving an equipment interface as recited, nor does either reference disclose or suggest an SPC system as recited, withdrawal of the rejection of claim 1 under § 103 is requested, and its allowance solicited. In addition, claims 2-6 which depend from claim 1 are also allowable, and recite additional non-obvious limitations.

Claims 7 and 12

The Office has rejected claims 7 and 12 using the same reference cites and reasoning as claim 1. Claims 7 and 12 contain similar limitations as those argued with respect to claim 1, as well as additional non-obvious limitations. Therefore, claims 7 and 12, and their dependent claims, are allowable for the reasoning argued with respect to the rejection of claim 1 above. Withdrawal of the rejections of claims 7 and 12 are respectfully requested.

Claim 17

Claim 17 has been rejected by the Office under § 103 as being unpatentable over Nulman in view of Stoddard. Claim 17 is allowable for at least the reasons stated below.

Neither Nulman nor Stoddard disclose a capability specification or a data collection plan as recited. Specifically, the Office agrees that Nulman does not disclose these items. The Office states that Stoddard discloses at column 5, lines 40-55, receiving a data collection plan and a capability specification as recited. However, the recited text only states that a metrology map defining the method of acquiring the metrology data is used. There is no suggestion that the metrology map includes a data collection plan and a capability specification as recited. The text of column 18, lines 51-57 of Stoddard, also relied upon by the Office, states that variable parameter tables can be downloaded to a processing tool. However, it is not disclosed or suggested in Stoddard that such parameter tables include a collection plan or a capability specification as recited.

Neither Nulman nor Stoddard disclose the recited data broker to receive the measurement data and to provide the measurement data to a statistical process client. The Office states that the recited data broker is disclosed at column 8, lines 55-61 of Nulman. However, this text refers to elements 326, 328 and 330 of Nulman, which are part of the equipment 210, and therefore cannot obtain measurement data from an equipment interface as recited.

For at least the above stated reasons, claim 17 is neither disclosed nor suggested, alone or in combination, by Nulman nor Stoddard. The rejection of claim 17, and claims that depend from claim 17, is respectfully requested to be withdrawn.

Claim 24

Claim 24 has been rejected under 35 U.S.C. § 103 as being unpatentable over Nulman in view of Stoddard. The Office agrees that Nulman does not disclose receiving, at a statistical process control system, a capability specification identifying a data collection capability of a semiconductor tool, and receiving a data collection plan at the statistical process control system, the data collection plan used in conjunction with the capability specification to identify data to be collected from a semiconductor tool. However, the Office states that these steps are disclosed by Stoddard at column 5, lines 40-55, and column 18, lines 51-57. However, the text of column 5, lines 40-55 only states that a metrology map defining the method of acquiring the metrology data is used. There is no suggestion that the metrology map includes a data collection plan and a capability specification as recited. The text of column 18, lines 51-57 of Stoddard states that variable parameter tables can be downloaded to a processing tool. However, it is not indicated in Stoddard that such parameter tables are a collection plan or a capability specification as recited, or that the capability specification is used in conjunction with a data collection plan also received at the statistical process control system to identify data to be collected.

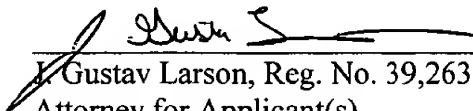
For at least the reasons stated above, withdrawal of the rejection of claim 24, and its dependent claims, is respectfully requested, and their allowance solicited.

In conclusion, Applicant(s) has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow

the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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Date


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